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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
LEIBY, CHRISTOPHER E	
ART UNIT	**PAPER NUMBER**
2609	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/511,833	ANGELE ET AL.
	Examiner	Art Unit
	Christopher E. Leiby	2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/19/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/10/2005*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. The information disclosure statement received on November 10th, 2005 has been considered.

2. Claims **1-68** are pending

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-68 are rejected under 35 U.S.C. 102(b) as being anticipated by **Tanaka et al.** (US Patent 5,900,852) hereinafter referred to as Tanaka.

Regarding **claims 1 and 35**, Tanaka discloses a method and device of electrically addressing (*Column 21, line 15-23*) a matrix screen (*Column 19, lines 6-11*) of bistable nematic liquid crystals (abstract) with breaking of anchoring (*Column 6, lines 53-64*), the method and device comprising applying controlled electrical signals respectively to row electrodes and to column electrodes of the screen, and further comprising simultaneously addressing a plurality of rows using similar row signals that are offset in time by a duration greater than or equal to the time column voltages (*Column 21, lines 15-23, Figure 27*), said row addressing signals comprising in a first period at least one voltage value serving to break the anchoring of all of the pixels in the

row, followed by a second period enabling the final states of the pixels making up the address row to be determined, said final states being a function of the value of each of the electrical signals applied to the corresponding columns (*Column 3, lines 60-67*).

Regarding **claims 2 and 36**, Tanaka discloses a method and device of addressing a matrix screen of bistable nematic liquid crystals with breaking of anchoring, wherein the screen uses two textures, one texture being uniform or lightly twisted in which the molecules are at least substantially parallel to one another, and the other texture differing from the first by a twist of the order of .+-.180.degree. (*Column 3, lines 32-59, figure 1*).

Regarding **claims 3 and 37**, Tanaka discloses a method and device according to claim 1, wherein the ends of the column signals (301) are synchronized with the ends of the row (302) signals (*Figure 3 reference 303*).

Regarding **claims 4 and 38**, Tanaka discloses a method and device, wherein

$TAU_C <= TAU_D < TAU_L$

in which relationship: TAU_D ($t_{03} + t_{11}$) represents the time offset between two row signals; TAU_L (t'_{02}) represents the row (signal electrodes) addressing time comprising at least an anchoring breaking stage and a texture selection stage (*Column 6, lines 40-64, figure 29a, reference V_e and V_W as voltage to reset and write respectively the bistable nematic liquid crystals, hence breaking of anchoring)* ; and TAU_C ($t_{03} + t_{11}$) represents the duration of a column (scan electrodes) signal (*All other references, except those specific differently, refer to figure 3; which is used to show detail of the row waveform*).

Regarding **claims 5 and 39,** Tanaka discloses a method and device, wherein the time for addressing x simultaneously addressed rows is equal to $TAU_L+[TAU_D(x-1)]$ in which relationship: TAU_D represents the time offset between two row signals; and TAU_L represents the row addressing time including at least an anchoring breaking stage and a texture selection stage (*Figure 3 referencing scan and signal electrodes waveform durations*).

Regarding **claims 6 and 40,** Tanaka discloses a method and device, wherein the rows addressed simultaneously in time overlap are adjacent rows (*Column 21, lines 15-23, Figure 27*).

Regarding **claims 7 and 41,** Tanaka discloses a method and device, wherein the rows addressed simultaneously in time overlap are rows that are spaced apart (*Column 21 and 22, lines 15-23 and 3-5 respectively, Figure 27*).

Regarding **claims 8 and 42,** Tanaka discloses a method and device, further comprising simultaneously addressing i modulo j rows, i.e. rows i, i+j, i+2j, etc., by providing a row signal of duration $TAU_L=jTAU_D$, by offsetting two successive simultaneously applied row signals in time by TAU_D, and by offsetting the successive blocks of simultaneously applied row signals by TAU_L (*Columns 21 and 22, lines 15-67 and 1-14 respectively, figure 27 with the understanding that row/signal waveforms are between the column/scan signals*).

Regarding **claims 9 and 43,** Tanaka discloses a method and device, wherein parameters of the signals applied to the screen column electrodes are adapted to

reduce the rms voltage (*Column 18, lines 14-19*) of interfering pixel pulses in order to reduce the interfering optical effects (flicker) of the addressing (*Column 22, lines 3-15*).

Regarding **claims 10 and 44,** Tanaka discloses a method and device, wherein parameters (waveforms) of the signals applied to the screen column electrodes are adapted to reduce the rms voltage (*Column 18, lines 14-19 reference critical voltage values*) of the interfering pixel pulses to a value of less than the Freedericksz voltage, so as to reduce the interfering optical effects (flicker) of the addressing (*Column 22, lines 3-15*).

Regarding **claims 11 and 45,** Tanaka discloses a method and device, wherein the parameters adapted to the electrical signal are selected from the group consisting of the waveform, the duration, and the amplitude of the column signal (*Column 22, lines 3-15*).

Regarding **claims 12 and 46,** Tanaka discloses a method and device, wherein a duration of the column signal is less than the duration of a last plateau of the row pulse (*Figure 3 reference 304 wherein the row pulse as a response plateau less then the duration of the column/scan signal*).

Regarding **claims 13 and 47,** Tanaka discloses a method and device, wherein the column signal presents a square wave shape (*Figure 27*).

Regarding **claims 14 and 48,** Tanaka discloses a method and device, wherein the column signal presents a ramp shape (*Figure 27*).

Regarding **claims 15 and 49,** Tanaka discloses a method and device, wherein x consecutive rows are addressed simultaneously with a time offset TAU_D from one row to

the next, the column signals corresponding to each row being sent sequentially once every TAU_D, and each row signal having a total duration of not less than $TAU_L = xTAU_D$ (*As can be seen in figure 27 the duration of the row signals, not shown but are between the column signals, are always longer in duration then the column signals*).

Regarding **claims 16 and 50,** Tanaka discloses a method and device, wherein a beginning of the row signal for the (i+x).sup.th, row is synchronized with an end of the row signal for the i.sup.th row (*Figure 27 reference c_{2n} and t_{2n}*).

Regarding **claims 17 and 51,** Tanaka discloses a method and device, wherein the row signals do not present any symmetrization (*Figure 27 the row signals between the column/scan signals are overlapping and hence do not represent any symmetrization*).

Regarding **claims 18 and 52,** Tanaka discloses a method and device, wherein the signals present frame symmetrization (*Figure 3 reference t'_1 and t_0 and signals 301 and 302*).

Regarding **claims 19 and 53,** Tanaka discloses a method and device, wherein polarities of the row signals are reversed from one image p to the following image p+1 (*Figure 3 reference t'_1 and t_0 and 302 and alternating polarities of the row signals*).

Regarding **claims 20 and 54,** Tanaka discloses a method and device, wherein polarities of the row signals and polarities of the column signals are reversed from one image p to the following image p+1 (*Figure 3 reference t'_1 and t_0 , 302 and alternating polarities of the row signals, and 301 and alternating polarities of the column signals*).

Regarding **claims 21 and 55,** Tanaka discloses a method and device, wherein polarities of two successive row signals are reversed (*Figure 3 reference* t'_1 *and* t_0 *and 302 and alternating polarities of the row signals*).

Regarding **claims 22 and 56,** Tanaka discloses a method and device, wherein polarities of two successive row signals, and also of two successive column signals are reversed (*Figure 3 reference* t'_1 *and* t_0 *, 302 and alternating polarities of the row signals, and 301 and alternating polarities of the column signals*).

Regarding **claims 23 and 57,** Tanaka discloses a method and device, wherein the number of rows addressed simultaneously is not less than: x_{opt} = integer portion of [TAU_L/TAU_D] (*since the duration of a single row signal is equal to the duration of the column signal, as shown in figure 3, x number of rows addressed will be equal to the equation stated above*) in which relationship: TAU_D (*Figure 3* $t_{03} + t_{11}$) represents the time offset between row signals; and TAU_L (t'_{02}) represents the row addressing time comprising at least an anchoring breaking stage and a texture selection stage (*Column 6, lines 40-64, figure 29a, reference* V_e *and* V_W *as voltage to reset and write respectively the bistable nematic liquid crystals, hence breaking of anchoring).*

Regarding **claims 24 and 58,** Tanaka discloses a method and device, wherein the signals present row symmetrization (*Figure 3 reference 302 and alternating polarities of the row signals*).

Regarding **claims 25 and 59,** Tanaka discloses a method and device, wherein each row signal comprises two successive adjacent sequences presenting respective

opposite polarities (*Figure 3 reference t'_1 and t_0, 302 and alternating polarities of the row signals, and 301 and alternating polarities of the column signals*)..

Regarding **claims 26 and 60**, Tanaka discloses a method and device, wherein the column signal is split into two sequences whose ends are synchronized respectively with the end of the first sequence and with the end of the second sequence of the associated row signal (*Figure 3 reference 303*), polarities of the two column signal sequences being likewise reversed (*Figure 3 reference t'_1 and t_0, 302 and alternating polarities of the row signals, and 301 and alternating polarities of the column signals*).

Regarding **claims 27and 61**, Tanaka discloses a method and device, wherein the end of the column signal is synchronized with the end of the second sequence of the associated row signal (*Figure 3 reference 303*).

Regarding **claims 28 and 62**, Tanaka discloses a method and device, wherein the polarities of two successive row signals are reversed (*Figure 3 reference t'_1 and t_0, 302 and alternating polarities of the row signals, and 301 and alternating polarities of the column signals*).

Regarding **claims 29 and 63**, Tanaka discloses a method and device, wherein the polarities of two successive row signals and also of two successive column signals are reversed (*Figure 3 reference t'_1 and t_0, 302 and alternating polarities of the row signals, and 301 and alternating polarities of the column signals*).

Regarding **claims 30 and 64**, Tanaka discloses a method and device according to claim 24, wherein the number of rows addressed simultaneously is not less than: x.sub.opt=integer portion [2TAU_L/TAU_D]in which relationship: TAU_D represents the time

offset between two row signals; and TAU_L represents the row addressing time comprising at least an anchoring breaking stage and a texture selection stage (*Column 21 and 22, lines 15-67 and 1-14 respectively, figure 27 shows two simultaneous blocks of sequentially scanned columns of rows*).

Regarding **claims 31 and 65**, Tanaka discloses a method and device, wherein the column signal is selected from the group comprising: a column signal of duration less than or equal to the duration of the last plateau of the row signal; a column signal of duration TAU_C equal to $TAU_D (t_{03} + t_{11})$; and a column signal of duration TAU_C less than TAU_D, where TAU_D represents the time offset between two row signals, while TAU_C represents the duration of a column signal (*Figure 3 the duration of the column/scan signal is equal to or less then the offset time between row signals*).

Regarding **claims 32 and 66**, Tanaka discloses a method and device, wherein the row signal is a two-plateau signal: a plateau during the anchoring breaking stage; and a plateau during a texture selection stage (*Column 6, lines 40-64, figure 29a, reference V_e and V_W as voltage to reset and write respectively the bistable nematic liquid crystals, hence breaking of anchoring).*

Regarding **claims 33 and 67**, Tanaka discloses a method and device, wherein the row signal is a multi-plateau signal during the anchoring breaking stage (*Column 20, lines 25-47, figure 24, when switching* between 180° to 0° or 360° an anchoring breaking stage must occur as shown).

Regarding **claims 34 and 68**, Tanaka discloses a method and device, wherein the row signal is a multi-plateau signal during a texture selection stage (*Column 20,*

lines 25-47, figure 24, when switching between 180° to 0° or 360° a texture writing stage must occur as shown).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ono et al. (US Patent 6,057,817) teaches bistable nematic LCD and driving method similar to applicants.

Barberi et al. (US Patent 6,327,017) teaches bistable nematic display and anchoring methods

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Leiby whose telephone number is 571-270-3142. The examiner can normally be reached on 8-4 m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alex Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit 2609

June 19th, 2007